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TITLE: ANTI-FUSE ELEMENT AND ITS MANUFACTURE

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ABSTRACT:

PROBLEM TO BE SOLVED: To provide a highly reliable anti-fuse element having an excellent programming characteristic by suppressing the fluctuation of the breakdown voltage of an anti-fuse layer.

SOLUTION: An anti-fuse layer is constituted by laminating an amorphous silicon film 26 on a silicon nitride film 25. The anti-fuse layer 25 and 26 is formed between a lower anti-fuse electrode 24 and upper anti-fuse electrode 29 and insulates a lower metallic wiring layer 23 and upper metallic wiring layer 30 from each other, because the entire upper surface of the anti-fuse layer 25 and 26 is in contact with an upper metallic wiring layer 30 through the electrode 29 and the entire lower surface of the anti-fuse layer 25 and 26 is in contact with the electrode 24. The wiring layers 23 and 30 are insulated from each other by an interlayer insulating film 27 in the area other than a fuse connecting port 28 in which the anti-fuse layer 25 and 26 is formed.

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